

### **REMARKS**

By this Amendment, claim 36 is amended. Presently claims 1-3 and 6-10 and 25-38 are presently pending.

Applicant's representative appreciates the courtesies extended to him during the August 2, 2007 in person interview with Examiner Gregory Desire. The substance of this interview is incorporated into the response below.

Applicant also appreciates the indication of allowed subject matter, specifically the subject matter of objected claims 37 and 38.

The invention lies in the feature of using an additional parameter which is the eccentricity of a smoothed version of the original object outline.

Smoothed versions of the object outline are obtained as part of the process of deriving the CSS representation. (See pages 1 and 2 of the specification for a discussion of curvature scale space.) In particular, the phrase "deriving a curvature scale space representation of the object outline by smoothing the object outline" can be understood as "deriving a curvature scale space representation of the object outline by a method including the steps of smoothing the object outline in a plurality of stages, each stage resulting in a smoothed version of the original object outline", and according to the invention the eccentricity of one of said smoothed versions of the object outline is used as an additional parameter, to be associated with the CSS representation.

It is known to use eccentricity of the original object outline. It is not known or suggested in the prior art to use the eccentricity of a smoothed version of the object outline, which smoothed version of the object outline is obtained in the process of deriving the CSS representation.

In case of assistance, we repeat the following. The curvature scale space (CSS) representation is the co-ordinates of the peaks of the loops in the curvature scale space image. Smoothed versions of the object outline are obtained as part of the process of deriving the CSS representation. A smoothed version of the object outline is not equivalent to a CSS representation. A CSS representation does not have any shape or mass distribution, or eccentricity.

I. Claim Rejections – 35 U.S.C. § 101

The Examiner had previously rejected claims 8, 10, 19 and 20. During the course of the August 2, 2007 interview, it was noted that claims 8, 10, 19 and 20 were rejected under section 101 in error. In fact, only claim 36 should have been previously indicated as rejected under section 101. Therefore, Applicant's representative in agreement with Examiner Desire, have amended claim 36 to correct the non-statutory subject matter basis raised in the Office Action. Specifically, claim 36, has been amended to recite an "a computer-readable medium". Accordingly, Applicant respectfully requests the withdrawal of the rejection of claim 36 based on section 101, non-statutory subject matter.

II. Claim Rejections – 35 U.S.C. § 112

The Examiner has rejected claims 1-3, 6-10, 25-27 and 37-38 under 35 U.S.C. § 112, second paragraph as allegedly being indefinite for failing to particularly point out or distinctly claim the subject matter which Applicant regards the invention.

Pursuant to the in person interview of August 2, 2007, relating to independent claims 1 and 10, and the discussion with the Examiner concerning the recitations of "smoothing" and "smoothed" are directed to separate features of two distinct elements. The discussion dealt with claim clarity, not claim patentability. The feature "smoothing" is related to deriving a curvature scale space *representation* of the object outline, and the feature "smoothed" is related to deriving at least one additional parameter reflecting the shape or mass distribution of the *original* object outline. The Examiner had previously interpreted the second feature as further modifying the first, and having both recite features of the same claim element. Having discussed the nature of the independent claims, as represented, no further amendments based upon the 112, second paragraph rejection are necessary.

Therefore, Applicant respectfully requests the withdrawal of the rejection of independent claim 1 and 10, and by nature of their dependency, any claims that depend from claim 1 or 10 that also have been found deficient based upon section 112, paragraph 2.

### III. Claim Rejections – 35 U.S.C. § 103

The Examiner has rejected claims 1-3, 6-10 and 25-36 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Abbasi et al. (Reliable Classification of Chrysanthemum Leaves through Curvature Scale Space). This rejection is respectfully traversed based in part on the in person interview conducted on August 2, 2007, as well as the Examiner's clearer appreciation of the claimed subject matter and in view of the aforementioned corrections to any alleged 101 or 112 rejections. Specifically, and as noted above, independent claim 1, for example, positively recites, *inter alia*, a method of representing an object appearing in a still or video image, by deriving a curvature scale (CSS) representation of the object outlined by smoothing the object outline, and deriving at least one additional parameter reflecting the shape or mass distribution of the smooth version of the original object outline. These claimed features are amply supported by the embodiments disclosed in the specification.

Applicant submits that, in dramatic contrast the claimed invention, Abbasi fails to at least teach, disclose or suggest each and every element of independent claim 1, including features the identified above. Furthermore, after a close examination of Abbasi, and in the course of the personal interview of August 2, 2007, it became apparent that Abbasi clearly *teaches away* from Applicant's claimed invention. Specifically, the introduction section of Abbasi, recites that parameters including area, perimeter, and centroid, cannot be used as shape features when the objects are subject to variation in scale and orientation. Clearly Abbasi describes a much more limiting aspect of the application of additional parameters for handling the similarity and dissimilarity of various instances of shapes.

Unlike, Abbasi, the current claimed invention does not suffer from such narrow limitation and in fact, discloses affectively using parameters including centroids used when deriving at least one additional parameter reflecting the shape or mass distribution of the smoothed version of the original object outline. Clearly, the claimed invention employs features that sufficiently distinguish it from Abbasi, and in view of Abbasi's narrowing discussion, it appears that Abbasi clearly teaches away from any of the derived benefits of using the shape classification process of the current claimed invention.

In response to the Examiner's assertions that Abbasi would be applicable and render obvious the claimed invention, the Applicant's representative and the Examiner reviewed the Examiner's response to Applicant's arguments filed in their response of April 18, 2006. Based on the review, and the general discussion conducted during the August 2, 2007 interview, it became clear that the Examiner incorrectly applied Abbasi by stating that Abbasi discusses deriving eccentricity as a shape feature region based upon using region points and centroid [values] sic to find eigenvalues, and eigenvalues as used to calculate eccentricity. See Office Action February 7, 2007, page 2, last paragraph.

For at least these reasons, Applicant submits that Abbasi is not applicable to render any of the claims obvious in the instant application. As such, the Applicant respectfully request the removal of Abbasi as a reference, and the allowance of those claims previously rejected under Abbasi and incorrectly applied under 35 U.S.C. § 103. Specifically, the Applicant respectfully requests that the rejection of claims 1-3, 6-10 and 25-36 under section 103 to Abbasi be withdrawn and that those same claims be allowed.

#### IV. Conclusion

All matters having been addressed in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' undersigned representative remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains an issue in which the Examiner feels would be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

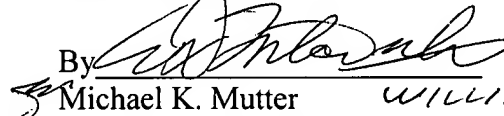
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